

substance: transition metal-(IV)_{1.5}(VI)_{1.5} compounds

property: crystallographic and physical data for semiconducting skutterudite-type pseudo-pnictides

(All data for RT except stated otherwise)

Space group $C_{3^4} - R3$, $Z = 8$, verified for $\text{CoGe}_{1.5}\text{S}_{1.5}$ [77K].

Compound	a [Å]	α [°]	d_X [g cm ⁻³]	E_A [eV]	$10^6 \cdot \chi_m^c)$ [cm ³ mol ⁻¹]		Ref.
					77 K	RT	
$\text{CoGe}_{1.5}\text{S}_{1.5}^a)$	8.017	90	5.57		- 50.6	- 50.6	77K
$\text{CoGe}_{1.5}\text{Se}_{1.5}^a)$	8.299	90	6.65		- 38.4	- 38.4	77K
$\text{RhGe}_{1.5}\text{S}_{1.5}$	8.2746	90	6.09			< 0	78L
	8.282	89.85					81L
$\text{RhGe}_{1.5}\text{Se}_{1.5}$	8.546	89.86	7.03				81L
$\text{IrGe}_{1.5}\text{S}_{1.5}^a)$	8.2970	90	8.12	0.11 ^{b)}		< 0	78L
$\text{IrGe}_{1.5}\text{Se}_{1.5}^a)$	8.5591	90	8.89	0.076 ^{b)}		< 0	78L
$\text{IrSn}_{1.5}\text{S}_{1.5}$	8.7059	90	8.42			< 0	78L

^{a)} Far infrared spectra: [81L].

^{b)} From $\log \rho \propto E_A/kT$ above 220 K, sintered samples [78L].

^{c)} χ in CGS-emu.

References:

- 77K Korenstein, R., Soled, S., Wold, A., Collin, G.: Inorg. Chem. 16 (1977) 2344.
78L Lyons, A., Gruska, R. P., Case, C., Subbarao, S. N., Wold, A.: Mat. Res. Bull. 13 (1978) 125.
81L Lutz, H. D., Kuche, G.: J. Solid State Chem. 40 (1981) 64.